SECTION 9 - Construction Specifications for Right of Way Excavations

Exceptions

Any variation on the Standard Construction Specifications must be reviewed and approved on a case by case basis by the City of Bloomington Engineering Department. This approval must be obtained prior to beginning of work on the non conforming aspect of a project.

In some cases, it may be necessary or beneficial for the city to alter the General Specifications of Construction. For example, in areas scheduled for major renovations or improvements, it may not be advisable to deposit large amounts of concrete in an area where a significant grade change is planned. Another instance might be areas where asphalt overlays are planned and surface grinding is not scheduled. It might be required that concrete be placed level to the existing surface. Any Specific Conditions of Construction required by the Engineering Department will be noted on the Right of Way Excavation Permit Form the Permit Holder receives at the time the permit is issued.

General Specifications

Any excavation within the City of Bloomington Right-of-Way shall conform to the following specifications:

1. The use of pervious asphalt is not allowed in any City of Bloomington Right of Way

2. Pervious concrete is allowed with the prior approval of the City Engineer. It is to be used primarily in sidewalks and parking areas.

3. The use of Rebar, re-enforcing mesh, and metal dowels in a sidewalk or street is acceptable with the prior approval of the Inspector or City Engineer.

4. Any excavation deeper than 2 inches shall be fenced or barricaded. This shall be done in such a manner that will make the area inaccessible to vehicular or pedestrian traffic.

5. Permit Holder shall be responsible for knowing and adhering to any applicable IOSHA regulations. In particular, any excavation over 5 feet in depth must be properly shored or sloped in a manner compliant with I.O.S.H.A. standards. When work areas are deemed dangerous by the Engineering Department, the party performing the work will be notified of safety violations (this could include a STOP WORK order). Safety

violations must be corrected **immediately**. Any violations can be reported to I.O.S.H.A. at the inspector's discretion.

6. Any placement of a new facility, or backfill and cover of an existing facility in a City of Bloomington Right of Way must meet the requirements of the owner of the line or facility as far as trench details, bedding, and amount of cover. It shall be the responsibility of the Permit Holder to check with the owner of any facility being installed or encountered during excavation for their construction requirements.

7. All edges of an excavation in any asphalt or concrete surface shall be saw cut. All saw cuts in a street surface shall be made perpendicular or parallel to the centerline of the street. No 45 degree cuts will be allowed unless previously approved by the Engineering Department.

8. All street excavations in arterial or collector streets shall be made with a minimum 8 inch cutback around the perimeter of the trench. This provides a shelf for the concrete cap to rest upon. In the case that the backfill material settles, this will prevent the road surface from sinking. The cutback shall be as deep as the concrete / asphalt layers, and 8 inches wide from the saw cut edge extending into the trench. Detailed drawings of trench sections can be found in SECTION 10 – REPAIR OF STREET SURFACE.

9. Trenches in traffic lanes, parking lanes, or bike lanes shall be left open overnight only with the explicit permission of the Engineering Department. Unless this permission is granted, unfinished street cuts shall be backfilled or plated for overnight usage by vehicular traffic. Plates shall be tacked in place to prevent movement.

10. All cuts made in, on or under any street surface, or street that is to be constructed where infrastructure will be placed, shall be backfilled with flowable fill. All areas outside the roadway that are under existing improvements, or will be under a known future improvement, shall be backfilled with # 53 stone compacted in lifts of not more than six (6) inches. All other areas shall be backfilled with compacted soil (spoils are allowed) then topped with twelve (12) inches of clean rock-free topsoil and seeded and mulched.

    Flowable fill standards:

    a. Flowable fill used within a City of Bloomington ROW shall meet all current INDOT specifications.

    b. Placement. The mixture shall be discharged from mixing equipment by a reasonable means into the space to be filled.

Backfilling shall be as continuous as is practicable. This means that backfilling the excavation with flowable fill should be done in one lift if possible. Concrete may be placed on fill as soon as bleeding water has subsided. All pavements shall be placed according to flowable fill manufacturer's recommendations.

c. Limitations. Flowable fill shall be protected from freezing until the material has stiffened and bleeding water subsided. As the temperature nears freezing, additional curing time may be needed.

Earth backfill. Earth backfill may be used in locations not requiring flowable fill or aggregate backfill. This would be any area not under a street surface or sidewalk. The earth backfill shall be made compatible with the adjacent surface. In established lawn areas, this includes compacting in not less than two lifts for each five (5) feet of depth of the cut, topping off with topsoil, fertilizing, seeding, mulching and restoring all contours. If the slope is greater than 3:1, restoration of the grass shall be made by sodding or with straw mats.

11. Flowable fill placement shall begin at the top of bedding material. Flowable fill backfill for cast-in place or precast structures such as, but not limited to, manholes, transition structures, junction structures, vaults, inlets and reinforced concrete box culverts, shall start at the subgrade for the structure.

12. No portion of pipe, conduit, line or other conveyance of utility service shall be placed less than 12 inches below the bottom of the existing pavement base or subgrade.

13. It is ***Recommended*** that all lines, pipes, conduits, etc. be marked with standard marker tape 12 to 18 inches above an underground facility.

14. The Permit Holder shall repair or replace all damaged or removed traffic control devices in accordance with City of Bloomington standards to the pre-construction condition and extent as required by the City Engineer.

15. The following procedures shall be followed during construction that utilizes trenchless technologies such as pipe-jacking, directional boring, or tunneling:

a. Prior to directional boring, all underground facilities must be located in advance of construction by potholing when crossing over or under them, or when a utility line is running in the same direction and is within five (5) feet of the proposed facility.

b. Prior to scheduled boring operations, plans for the proposed construction must be submitted to the Engineering Department for approval.

c. Construction shall be made in such a manner that it shall not weaken, damage, or undermine the existing street.

d. The location of the boring pits shall be of sufficient distance from the roadway to prevent undermining of the curb, gutter or shoulder section (normally 5 feet).

e. The pit shall be dug to a depth sufficient to maintain a minimum boring depth of 24 inches below the traffic surface.

f. Jetting types of boring equipment will not be allowed.

g. Over cutting in excess of approximately two (2) inches shall be remedied by pressure grouting the entire length of the installation.

h. The pits or trenches excavated to facilitate this operation shall be backfilled immediately after work has been completed.

i. The contractor performing the work shall be able to locate the bore head at all times.

j. Any and all surface heave or settlement, or related problems caused by the trenchless method, shall be corrected by the Permit Holder at their expense, to the satisfaction of the Engineering Department. Any annular region or other cavity remaining between the subgrade and the conduit or utility shall be pressure grouted to the satisfaction of the Inspector, prior to backfilling the bore pits.

k. All drilling fluids shall be removed and disposed of properly.

16. The use of flooding as a means of obtaining compaction of backfill shall not be allowed on existing public streets, alleys or sidewalks.

17. Repair of established lawns shall consist of the following:

a. In established lawn areas all repairs shall be restored to within twelve (12) inches of the surface by compacting backfill in 2 ½ ft. lifts. The excavation is to be topped off with a minimum of twelve (12) inches of topsoil restoring all contours.

b. The area shall be fertilized, seeded and mulched. If the slope is greater than 3:1 or if the area has previously been sodded, restoration of the grass shall be made by sodding or with straw mats.

c. At thirty (30) days after completion and restoration of a cut in a portion of an established lawn within the City of Bloomington Right-of-Way, the permit holder shall inspect the cut. If it has settled below the adjacent surface, the permit holder will fill and compact the settled area and reseed or resod. The permit holder shall inspect the cut again within thirty (30) days following the second restoration. If the cut has again settled below the adjacent surface, shall fill and compact the settled area and reseed or resod. Such inspections and fillings shall continue every thirty (30) days until an inspection discloses that the cut has not settled more than two (2) inches below the adjacent surface in any thirty (30) day period. The permit holders bond will not be released until the seeded area shows seventy-five (75%) percent regrowth and meets settling requirement above.

18. Trace wire shall be installed on all lines within the City of Bloomington Right-of-Way, with the exception of storm sewers The wire shall be attached to the lines at 15 foot intervals and shall be brought to the surface at all junctions and termini using methods approved by the Engineering Department. Wires should be brought up into a junction box or pedestal that sits flush with grade. Trace wire material shall be 10 or 12 Gauge, soft drawn, and insulated.

19. Any work in which untested and unaccepted materials are used without written approval by the Engineering Department shall be removed and replaced at the Permit Holders expense.

20. The maximum length of open trench permissible at any time shall not exceed 500 lineal feet, for pavement removal, excavation, construction, backfilling, patching and all other construction activities without the permission of the Inspector.

21. All street level accesses (manholes, vaults, etc.), shall be of heavy-duty construction, capable of safely supporting anticipated maintenance equipment and vehicular traffic, and shall conform to the finished grade of the road.

SECTION 10 - Repair of street surface

12.08.070 Restoration of surface to be accomplished by permittee.

The person to whom a permit is issued under the provisions of this chapter shall properly replace or cause to be replaced all pavement cut into and disturbed by any person under a permit issued under the provisions of this chapter, in compliance with Bloomington Municipal Code Section 17.08.080, and in the manner and following the specifications required by the city engineer. In the event of the permittee's failure to do so, the city may replace such pavement or employ another contractor to do so, at the expense of the permittee, such expense to be deducted from the deposit required by Section 12.08.060. In addition, the city may take such civil action as provided by law, including, but not limited to, imposition of penalties or other relief as provided for herein. In the event reinspection of pavement cut or repaired hereunder is required as a result of noncompliance with any section contained herein, a reinspection fee in the amount of twenty-five dollars may be charged by the City Engineer for each day the work remains unfinished beyond the specified completion time. (Ord. 86-49 § 1 (part), 1986: prior code § 23-20).

A. General Requirements :

All repairs of street or alley surfaces shall conform to the following standards. There may be additional requirements based on the location of the repair.

1. The restoration of the surface of all street cuts shall be completed by such methods and in such manner that the plane of the surface of the repair, at the time of completion and thereafter, will be flush with all contiguous surfaces and will create no dissymmetry with the topography of the roadway. In addition, the final surface elevation shall be at the same elevation as the original surface.

2. Asphalt surface repairs may utilize milling, infrared or future technologies approved by the Engineering Department, unless a specific method is required by the permit or by the Inspector.

3. All materials, unless specifically stated otherwise, shall be in accordance with current Indiana Department of Transportation Standard Specifications.

4. All restorations shall be made in accordance with ADA Standards for Accessible Designs, even if the original improvement was not in compliance. The City of Bloomington reserves the right to require

adherence to interim ADA rules created by the Department of Justice Access Board when it is in the best interest of the public to do so.

5. Lane striping, crosswalks, stop bars, tactile indicators, or other surface markings shall be replaced with similar methods and materials.

6. All saw cut edges of existing asphalt, as well as the surface of any concrete that will be covered with asphalt, shall be tack coated. Polymeric asphalt joint tape (PAJT, T-Bond) can be used on joints.

B. Repair of Core holes and utility potholes

Core holes shall and utility potholing be repaired as follows:

1. For core holes exceeding one-foot depth, the hole shall be filled with a non-shrink grout having a compressive strength of 4000 psi after 28 days. The grout material used shall be compatible with the existing surface in color and texture and shall seal the hole to prevent the intrusion of moisture into the subgrade.

2. For core holes not exceeding one-foot depth, which pass into the subgrade, the subgrade shall be tamped to provide pavement support first and the hole shall be filled with the required non-shrink grouts as in no. 1 above.

3. Excavations for potholing to expose underground utilities shall be backfilled with flowable fill.

4. On asphalt streets, hot mix fine graded surface course asphaltic concrete tamped in place shall be used in place of the non-shrink grout.

5. The surface of the completed repair shall have no indentions, pockets or recesses that may trap and hold water, nor have bumps or high places but the completed surface shall match the grade of the existing pavement surface.

6. Repair of cored holes 12-inches in diameter or less for subsurface geotechnical investigation, materials testing, or utility locations are not subject to the repair extent standards, but shall be repaired as noted above.

C. Repair of Concrete Streets and Alleys

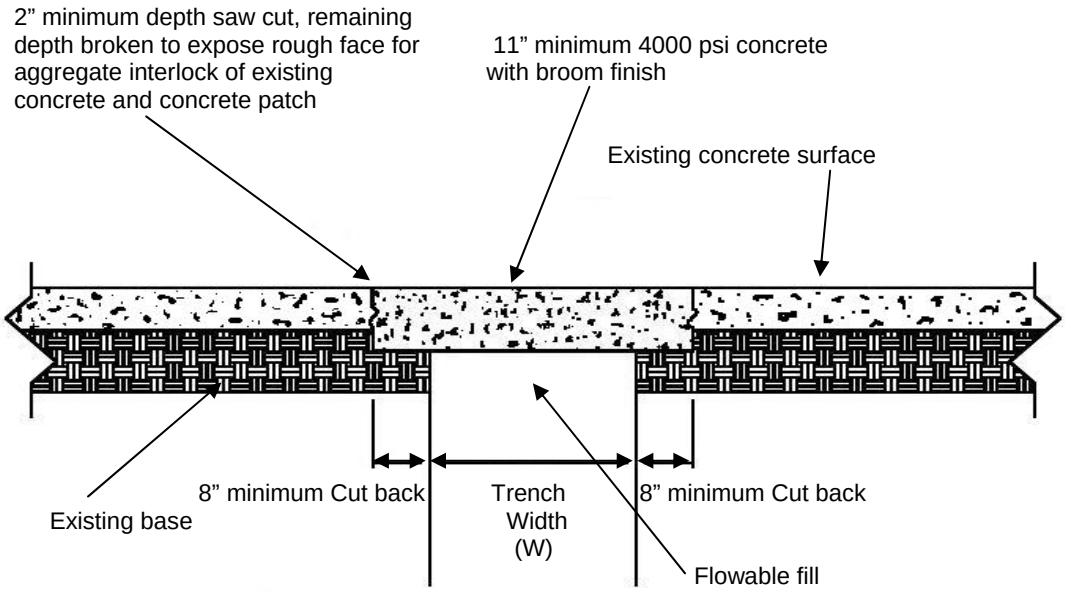
1. Two methods of concrete surface removal are acceptable:

a. All cuts shall be sawed to one-third (1/3) the depth of the pavement with a concrete saw. A minimum saw cut depth of two (2) inches is required. The cut shall then be completed with a mechanical hammer equipped with a suitable chisel, starting from the center of the cut.

b. All cuts shall be sawed full depth of the pavement with a concrete saw.

2. All cuts shall be made at pavement joints. When any portion of a panel is cut on arterial or collector streets, the entire panel shall be removed and replaced. The minimum panel length shall be ten (10) feet. After work is completed below grade and the trench is backfilled, 11 inches of 4000 P.S.I. Portland cement concrete should be poured in place. In cooler weather or situations that require minimal downtime, a 1% to 2% calcium additive may be used to promote faster setup and cure times. The surface must be leveled and finished in a manner consistent with the surrounding street surface.

D. Concrete surface street cut repair



Trench Width (W) = 5/3 (diameter of pipe in inches) + 7 inches
NOTE: Minimum trench width is 18 inches

E. Repair of Asphalt Streets and Alleys

All repairs in asphalt streets and alleys shall conform to the following standards :

1. If 5 or more cuts are made in a given block, or 20% of the surface area of any given block is disturbed, the entire block shall be resurfaced. The determination of whether milling is required prior to paving, or if the surface can be directly overlaid will be made by the Engineering Department.

2. The Engineering Department may request that asphalt surface repairs in arterial streets extend 2 ft. in all directions from the area of excavation. This request is most likely to be made in the case of narrow excavations of 2 ft. or less in width.

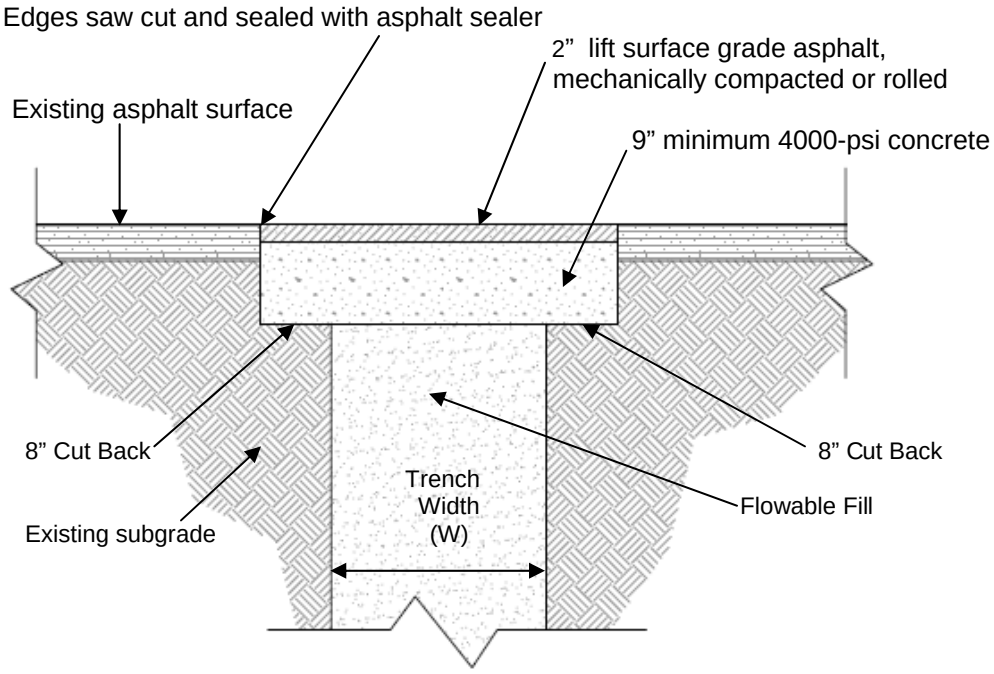
3. If a cut on an arterial street overlaps the centerline of the street, the street shall be restored from curb line to curb line.

4. Repairs in residential streets shall be backfilled with flowable fill to within 11 inches of the existing street surface. 9 inches of 4000 P.S.I. Portland cement shall be poured in place within 2 inches of the surrounding surface and allowed to harden to a degree sufficient enough to withstand traffic. The remaining 2 inches shall be filled with surface grade asphalt. The asphalt shall mechanically compacted or rolled with a half-ton or larger roller to a level consistent with the surrounding pavement. No “cutbacks” or T-sections are required on residential street repairs.

5. Repair of Asphalt surface of Arterial and Collector Streets shall include “cutbacks” 8 inches wide around the entire perimeter of the trench. The cutback shall be 11 inches in depth measured from the existing pavement surface. flowable fill shall be used to backfill the trench to the level of the cut back. 9 inches of 4000 P.S.I. Portland cement should be poured in place within 2 inches of the surrounding surface and allowed to harden to a degree sufficient enough to withstand traffic. The remaining 2 inches is to be filled with surface grade asphalt and mechanically compacted or rolled with a half-ton or larger roller to a level consistent with the surrounding pavement.

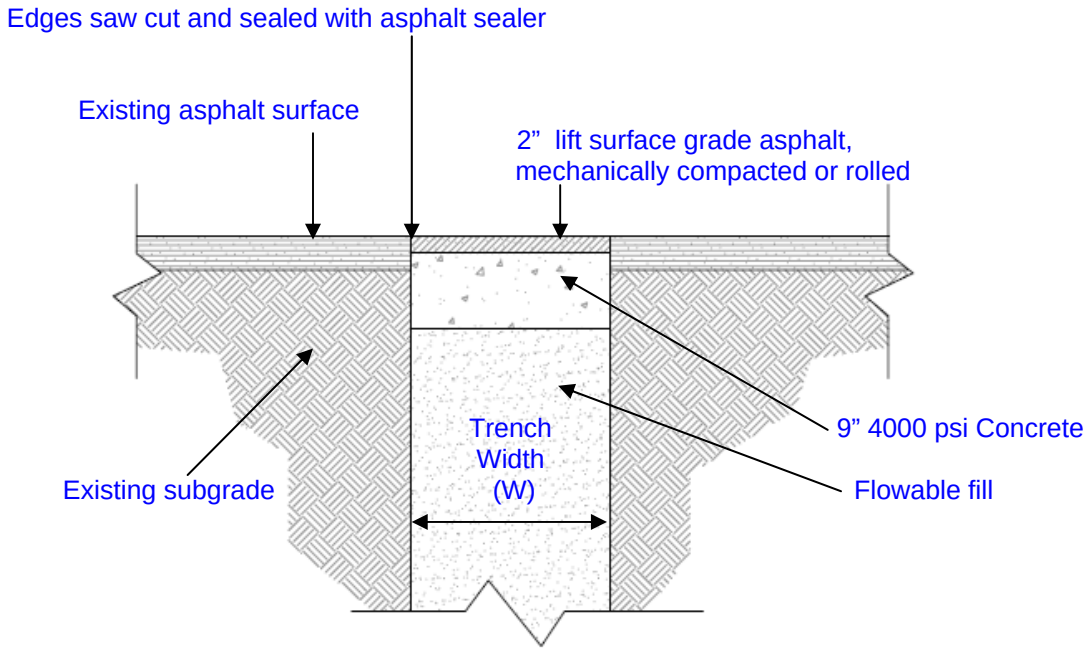
6. When a diagonal excavation is made, the surface repair shall be “squared” off with cuts parallel and perpendicular to the centerline of the street.

F. Asphalt surface street cut repair in Arterial and Collector Streets



Trench Width (W) = 5/3 (diameter of pipe in inches) + 7 inches
NOTE: Minimum trench width is 18 inches

G. Asphalt surface street cut repair in Residential Streets



Trench Width (W) = 5/3 (diameter of pipe in inches) + 7 inches
NOTE: Minimum trench width is 18 inches

H. Temporary Surface Repairs

Temporary surface repairs will be allowed only when hot mix asphalt is not available due to seasonal closings of asphalt plants, or with the specific permission of the Engineering Department.

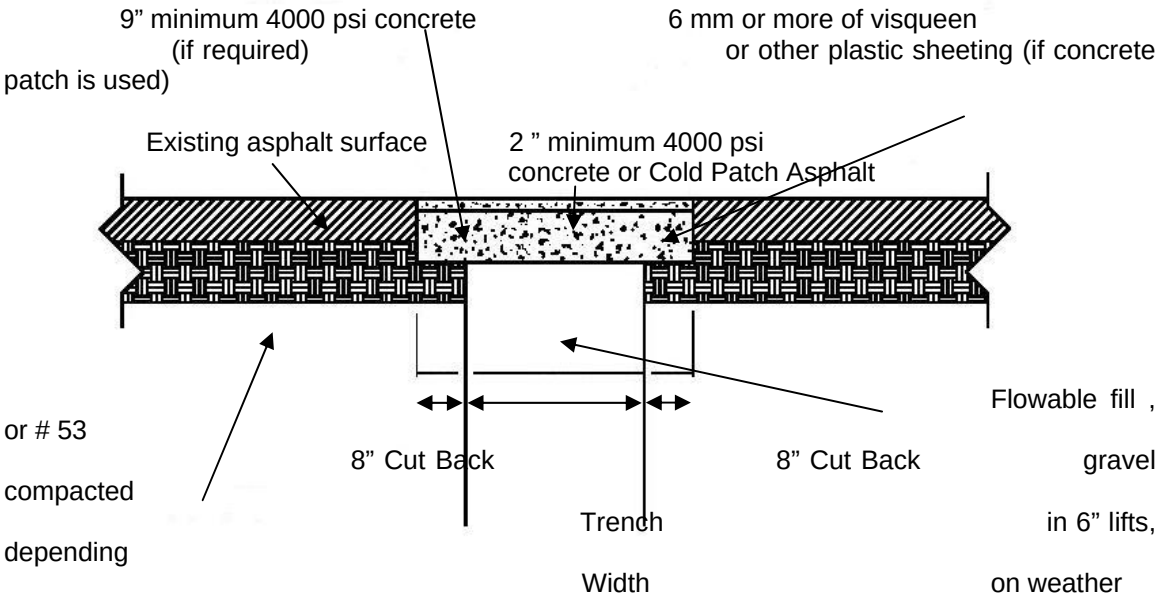
1. When possible, any required concrete shall be poured before a temporary street surface patch is made. If the temperature is cold enough, or conditions are wet enough, to prevent the pouring of concrete, backfill consisting of moistened #53 gravel, compacted in 6 inch lifts, should be compacted to within 3 inches of the surface.

2. After concrete is poured, or backfill is compacted, bituminous cold patch shall then be tamped into place and leveled with surrounding surface.

3. In high traffic areas during winter months 2 inches of concrete separated by a layer of plastic film may be used and later be replaced with asphalt.

4. Temporary repairs shall be permanently repaired as soon as weather, or supply of asphalt, permits. The permanent repair shall then be made as to conform with all specifications required by City of Bloomington.

I. Temporary street cut repair



Existing base (W)

Trench Width (W) = 5/3 (diameter of pipe in inches) + 7 inches
NOTE: Minimum trench width is 18 inches

J. Repair of Gravel Surface Streets and Alleys

1. When trenches are excavated in streets or alleys that have only a gravel surface, the contractor shall replace such surfacing on a satisfactory compacted backfill. The materials used for backfill in a gravel surfaced street shall be flowable fill. In a gravel surfaced alley, flowable fill or moistened 53's compacted in 6 inch lifts may be used.

2. Gravel replacement shall be one (1) inch greater in depth to that which originally existed, but not less than four (4) inches.

3. The surface shall conform to the original street grade. Where the completed surface settles, additional gravel base shall be placed and compacted by the permit holder within fourteen (14) days after being notified by the Engineering Department to restore the roadbed surface to finished grade.

K. Surface Repair of Recently paved streets

For the purpose of this section, recently paved streets are those paved within the last three years.

1. All requirements for other asphalt surface repairs apply.

2. The surface repair shall be made using a roller, no hand tamping or hand operated tamping machines will be allowed.

3. The surface of repair and surface of existing asphalt shall meet at exactly the same level. No dips, mounds, or unevenness in the repair will be allowed.

4. An additional inspection after the surface repair is complete will also be required.

L. Repair of Brick surfaced Streets (historically designated streets)

All brick pavement street cut repairs shall conform to the following specifications:

1. Flowable fill shall be used as backfill when repairing a brick surfaced street.

2. 2 to 3 inches of sand shall be used as a base directly under the brick surface. The sand shall be moistened and compacted, then leveled to provide a base for the brick surface.

3. Original or other approved paving bricks shall be placed in a pattern that matches the original surface.

4. The joints between the paving bricks shall be filled by brushing dry Portland cement into the joints and wetted.

M. Repair of sidewalks, drive entrances, and curbs

Repair of sidewalks and curbs shall conform to the following specifications :

1. Sidewalks, drive entrances, and curbs shall be removed to the nearest control or expansion joint.

2. All cuts shall be saw cut through the full depth of the concrete section and be perpendicular to the run of the walk.

3. Details of sidewalks, curbs, drive entrances, and curb ramps shall comply with current Indiana Department of Transportation (INDOT) specifications. These specifications can be obtained from the Engineering Department or INDOT.

4. If the excavation is to pass under an existing curb in which there is no control/expansion joint, the curb shall be saw cut and replaced to one (1) foot beyond each side of the disturbed base. If no damage to curb is evident to the Inspector, the permit holder may pour flowable fill under curb and gutter for cuts less than one (1) foot wide. The Inspector, prior to flowable fill being placed under existing curb and gutter, will make this determination.

5. Concrete sidewalks are to be repaired with concrete that is a minimum of four (4) inches in thickness. All drive entrances shall be a minimum of 6 inches thick. The Engineering Department can request that commercial drive entrances be more than 6 inches thick.

6. All new concrete must be protected against excessive dehydration by the application of a membrane type curing compound (White pigment or soy bean oil concrete cure shall be used on all new concrete within the right of

way). The new concrete shall be protected from all traffic for forty-eight (48) hours.

7. Foam expansion joint material is to be used at all joints.

8. Asphalt sidewalks shall be repaired with a minimum of four (4) inches of compacted asphalt. All edges or joints of existing pavement shall be thoroughly cleaned and tacked.

N. Repair of Driveways and Commercial Drive Entrances

Repair of the portion of a driveway or commercial drive entrance that is in the City of Bloomington Right-of-Way should conform to the following specifications:

Concrete Drives

1. Concrete driveways shall be repaired with concrete to original specifications.
2. The existing driveway thickness shall be matched, but the minimum thickness shall be six (6) inches for residential drives.

3. The new concrete shall be protected against excessive dehydration by the application of a membrane type curing compound (white pigment or soy bean oil concrete cure).

4. The new concrete shall be protected from all traffic for forty-eight (48) hours. If this is done by the use of plates, the plates shall be steel with a minimum three-fourths (3/4) inch thickness. These plates shall be secured so as not to move and constitute a hazard when they are open to traffic.

Asphalt Drives

1. Asphalt driveways shall be repaired with asphalt.

2. The existing driveway thickness shall be matched, but the minimum driveway thickness for residential drives shall be three (3) inches of bituminous on six (6) inches of compacted aggregate.

3. Asphalt shall be placed in three (3) inch lifts and is to be compacted by mechanical tamp, vibrator, or roller.

4. The top one (1) inch minimum shall be surface grade hot mix asphalt.

Gravel or Stone Drives

1. Gravel replacement shall be one (1) inch greater in depth to that which originally existed, but not less than four (4) inches.

2. The surface shall conform to the original grade. Where the completed surface settles, additional gravel base shall be placed and compacted by the Permit Holder within fourteen (14) days after being notified by the Engineering Department to restore the roadbed surface to finished grade.

O. Inspections

All construction work within the public rights-of-way shall be subject to Inspection by the City Engineering Department. It shall be the responsibility of the Permittee to provide safe access for the inspector to perform the required Inspections. Inspectors may inspect any project at any time they feel it necessary and must be allowed access to the job site.

Generally, Inspections are required at the following times:

1. **Backfilling** - The trench will be checked for proper depth, width, line spacing, bedding, and compaction of backfill material.

2. **Pouring of Concrete** - The pour will be checked for proper mix, thickness, and leveling height.

3. **Surface Restoration** - Asphalt will be checked for proper mix, temperature and compaction. Concrete will be checked for level and finish.

Please Note: The permit form that is issued to the Permit Holder should state if and when additional inspections are necessary.

P. Specific Conditions

In some cases, it may be necessary or beneficial for the city to alter the General Conditions of Construction for street cuts. For example, in areas scheduled for major renovations or improvements, it may not be advisable to deposit large amounts of concrete in an area where a significant grade change is planned. Another instance might be areas where asphalt overlays are planned and surface

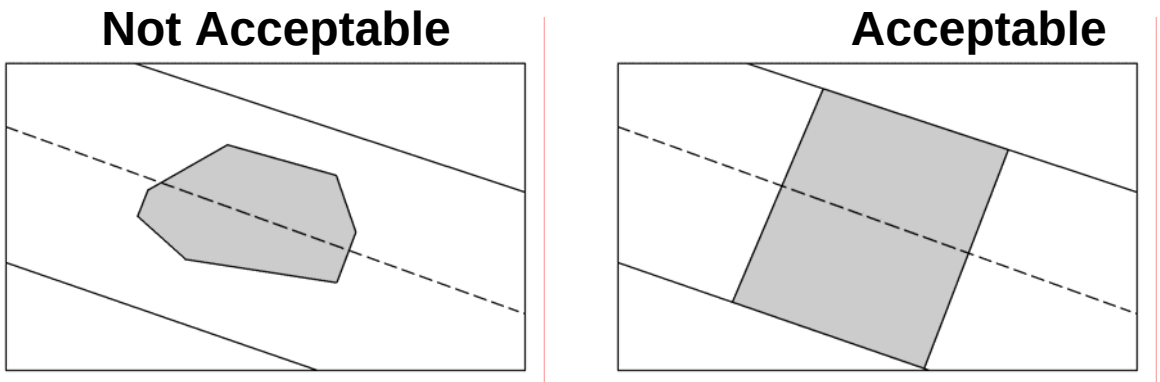
grinding is not scheduled. It might be required that concrete be placed level to the existing surface. Any Specific Conditions of Construction required by the Engineering Department will be noted on the ROW Permit Review form the Permittee receives at the time the permit is issued.

SECTION 11 - Repair extend Guidelines

The following are examples of acceptable and unacceptable street surface repairs with regards to the extent of the repair.

Example 1

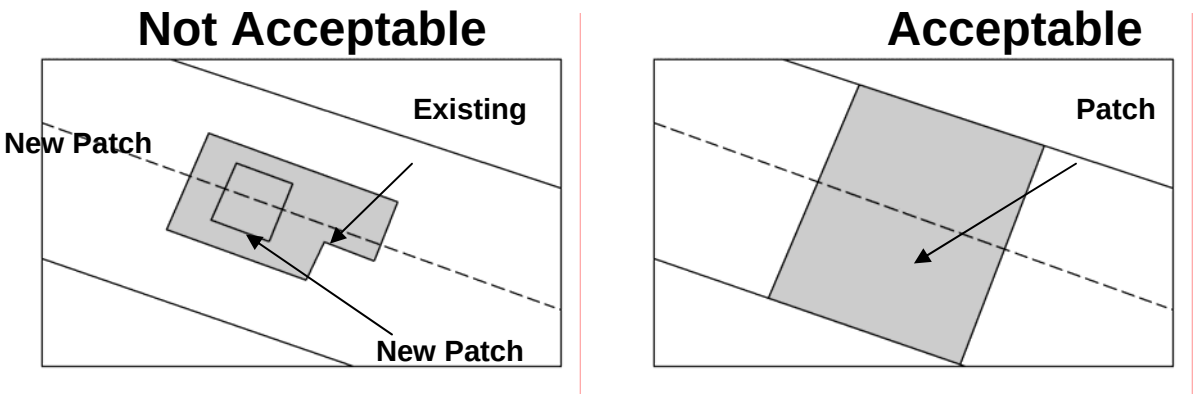
Existing pavements should be removed to clean, straight lines parallel and perpendicular
to the flow of traffic. Do not construct patches with angled sides and irregular shapes. All repairs should be full lane width.



Example 1: Do not construct patches with angled sides and irregular shapes.

Example 2

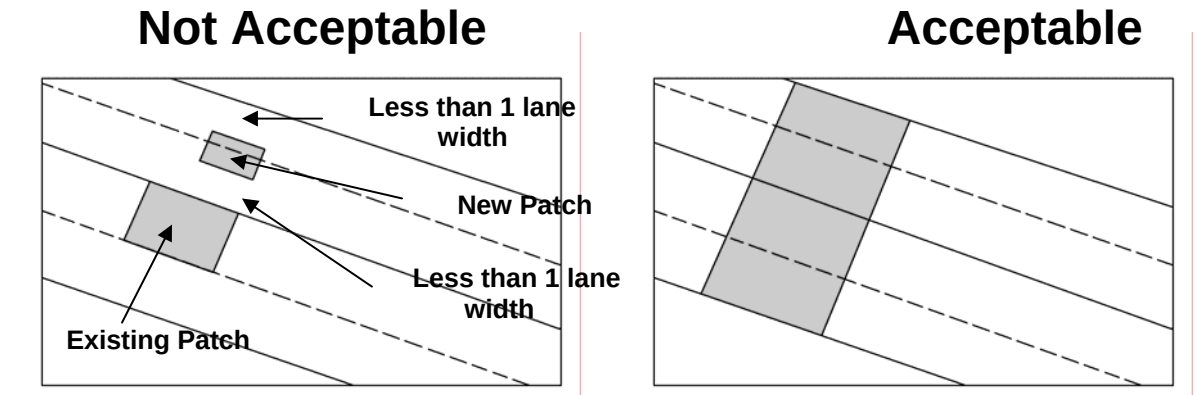
Avoid patches within existing patches. If this cannot be avoided, make the boundaries of
the patches coincide. All repairs should be full lane width.



Example 2: Avoid patches within existing patches.

Example 3

Do not leave strips of pavement less than one-half lane in width from the edge of the new
patch to the edge of an existing patch or the lip of the gutter.

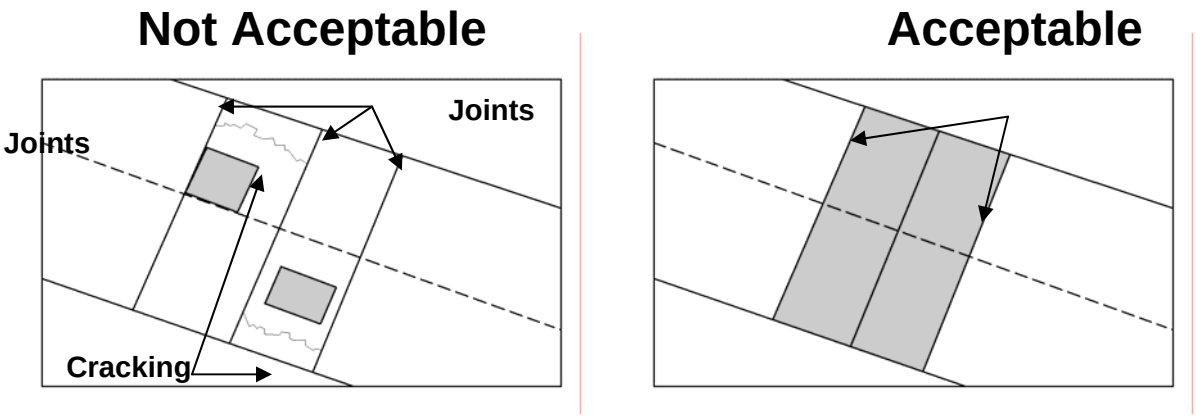


Example 3: Do not leave strips of pavement less than one-half lane in width.

Example 4

In concrete pavements, remove sections to existing joints. New saw cut joints at can be made midslab (midway between existing joints) in pavements that are in good repair. In damaged concrete, the limits of removal should be determined in the field by a representative of the Engineering Department.

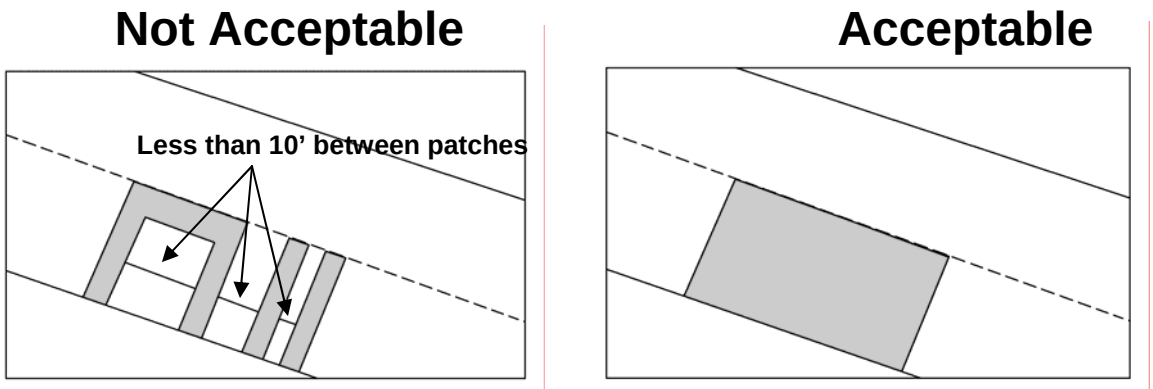
Concrete Pavement



Example 4: In concrete pavements, remove sections to existing joints.

Example 5

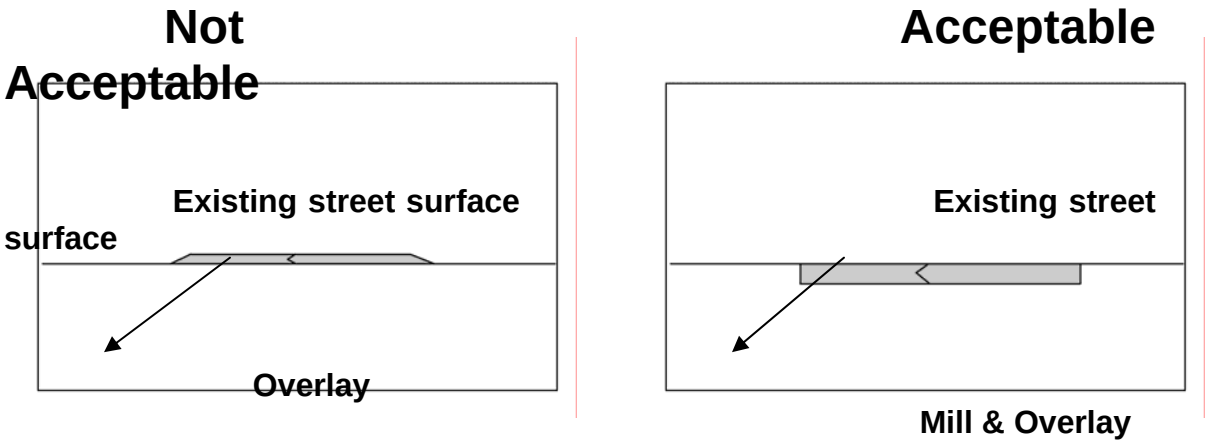
In the case of a series of patches or patches for service lines off a main trench, repair the
pavement over the patches by grinding and overlay when the spacing between the patches is less than 10 feet.



Example 6: The patched area must include any existing patches within 10 feet.

Example 7

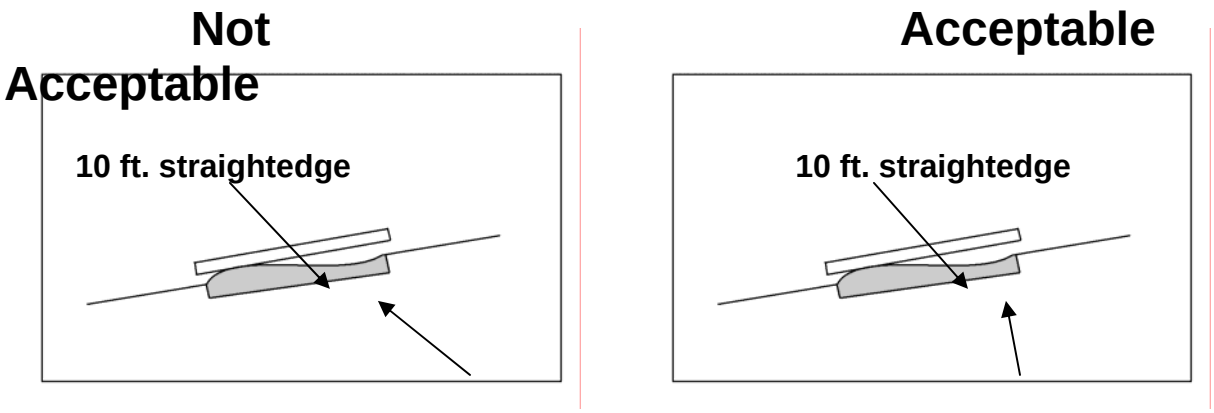
Completed street repairs should have rideability at least as good as, if not better than, the
pavement prior to the repairs. A driver may be able to see a street repair, but in the case of a quality repair, should not be able to "feel" it in normal driving. A patch should provide a smooth ride with smooth transitions on and off the repair and all joints should be located outside the wheel path. Overlays should be placed by first removing the existing pavement to the desired depth by grinding or milling, and then placing the pavement flush with the adjacent surfaces. Overlays with feathered edges are not acceptable.



Example 7: Patches may not decrease rideability.

Example 8

The finished surface of the street repair should be tested with a ten- (10) foot straightedge parallel to the centerline or perpendicular across joints. Variations measured from the testing face of the straightedge to the surface of the street repair should not exceed one-quarter- (¼) inch.



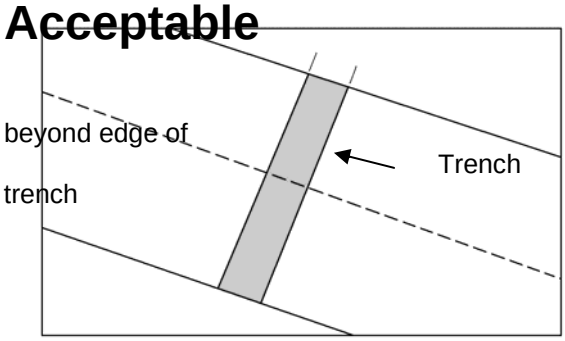
Greater than ¼ in. difference **Less than ¼ in. difference**

Example 8: Surface tolerances for street repairs should meet the standard for new construction.

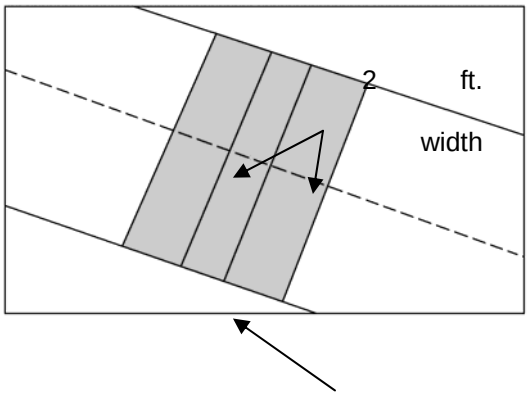
Example 9

Transverse patches on arterial streets shall be overlaid across the entire. It may be required by the Engineering Department that on arterial streets, the area of repair extend beyond the sides of the trench for a distance of two- (2) feet minimum on all sides.

Not Acceptable



Acceptable



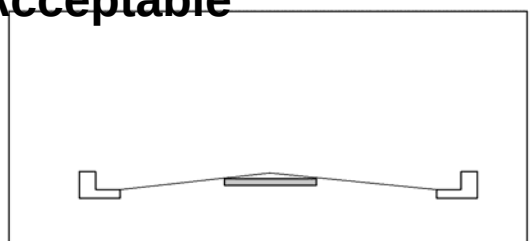
Trench

Example 9 Trenches in arterial and collector streets must be patched 2 ft. beyond edge of trench.

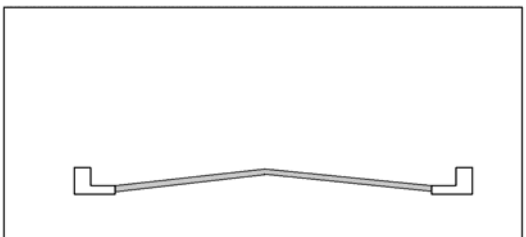
Example 10

Patches should have a smooth longitudinal grade consistent with the existing roadway.
Patches should also have a cross slope or cross section consistent with the design of the existing roadway.

Not Acceptable



Acceptable



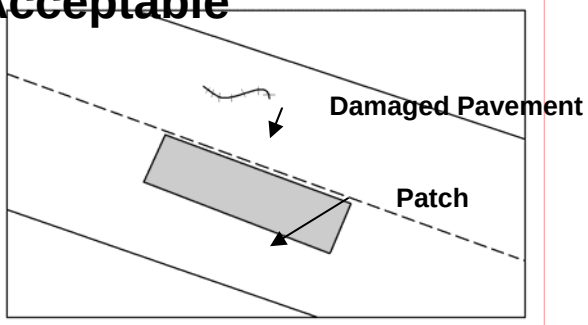
Patch does not match cross slope of street **Patch matches cross slope of street**

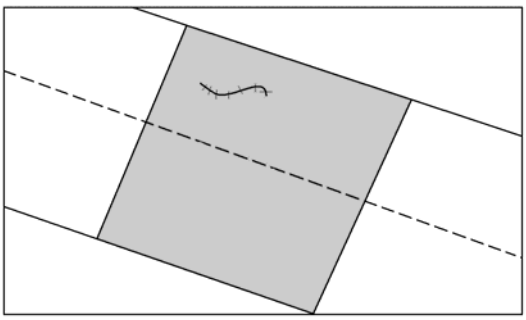
Example 11: Patch slope and grade must match existing pavement.

Example 11

When the proposed excavation falls within 10 feet of a section of pavement damaged
during the utility repair, the failed area shall be removed to sound pavement and patched.
Scarring, gouging, or other damaged pavement adjacent to a patch shall be removed and the pavement repaired to the satisfaction of the Engineering Department.

Not Acceptable **Acceptable**





Example 12: Damaged pavement within 10 feet of a patch must also be patched.

Example 13

Avoid frequent changes in width of patches. For future maintenance, this simplifies removal of adjacent pavement failures.

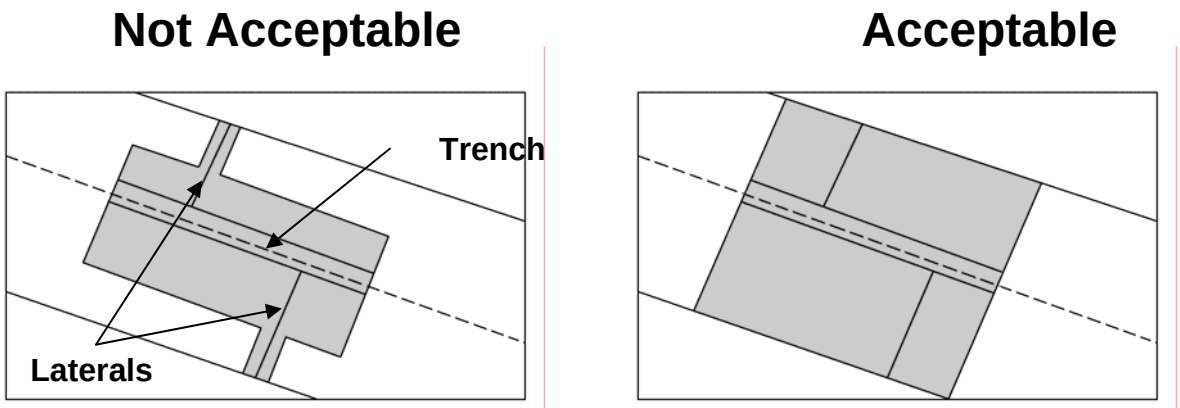


Figure E.17. Example 13: Patches must avoid frequent width changes.